Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (8) , Lesson :(1)(Modeling Division with Fractions, Whole Numbers)

Teacher guide's Page : ....   , Student book's Page : 2 - 4

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can model division with fractions.

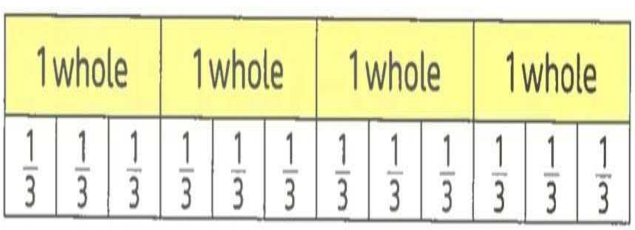
Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

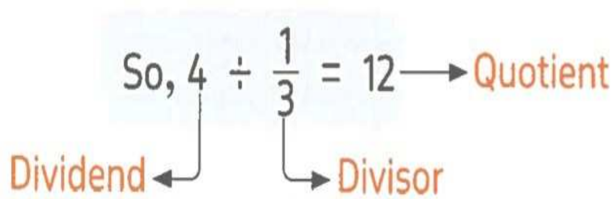
Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

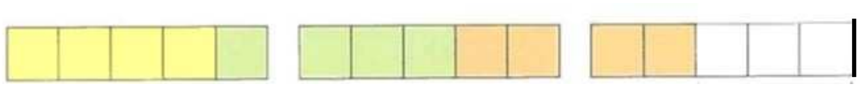
Divide : $3 \div \frac{1}{2} = 3 \times 2 = 6$

Lesson activities (Learn) : **Divide :** $4 \div \frac{2}{3}$?





THINK : Divide $3 \div \frac{4}{5}$?



$3 \div \frac{4}{5} = 3\frac{3}{4}$

Closing the idea (Summary):

Divide: A) $3 \div \frac{3}{4}$ = ...   B) $2 \div \frac{3}{5}$ = ...

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit :(8),Lesson : (2) (Modeling Fraction Division with Tape Diagrams)

Teacher guide's Page : .... , **Student book's Page : 5 - 7**

LEARNING OBJECTIVES : In this lesson the student should be able to :

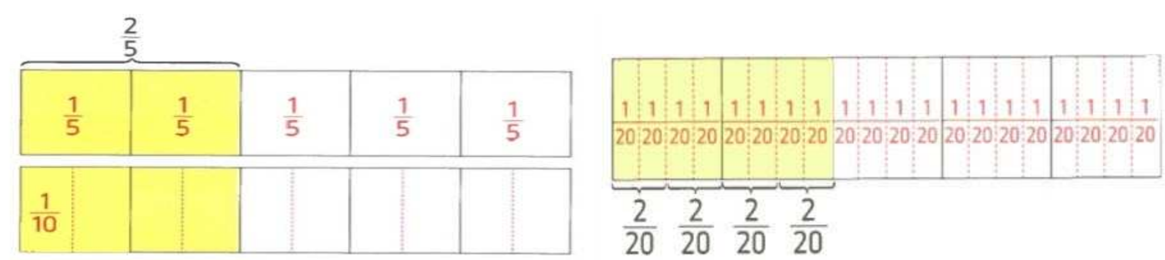
Can use tape diagrams to model dividing a fraction by fraction.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Divide : $4 \div \frac{1}{3} = 4 \times 3 = 12$

Lesson activities (Learn) : Divide : $\frac{2}{5} \div 4$?



$\frac{2}{5} \div 4 = \frac{2}{20} = \frac{1}{10}$

THINK :

Divide : $\frac{3}{4} \div 2 = \frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$

Closing the idea (Summary):

Divide : $\frac{8}{10} \div \frac{2}{5} = \frac{8}{10} \times \frac{5}{2} = 2$

Date	Period	class	Attendence	Absent	Total
…. / …… / ……..	……….	6 / ……	……..F	……..	……

Unit : (8) , Lesson : (3) (Connecting Fraction Multiplication to Fraction Division)

Teacher guide's Page : ……. , **Student book's Page :** 8 - 10

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can develop a rule for dividing fractions.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

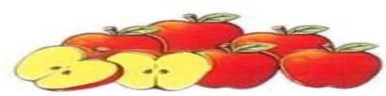
Discover (opening the idea) :

Calculate : 2 of 5 = $2 \times 5 = 10$

Lesson activities (Learn) :

For example :

What is $\frac{1}{2}$ of 6 apples ?



$\frac{1}{2}$ of 6	means	$6 \div 2$	or	$6 \times \frac{1}{2}$
↑ The word "of"	indicates	↑ Division	or	↑ Multiplication

So, $6 \div 2 = 6 \times \frac{1}{2}$

THINK : Find the results :

A) $\frac{3}{8} \div \frac{1}{4} = \frac{3}{8} \times \frac{4}{1} = \frac{3}{2} = 1\frac{1}{2}$

B) $\frac{3}{10} \div 2 = \frac{3}{10} \times \frac{1}{2} = \frac{3}{20}$

Closing the idea (Summary):

Find the missing fraction :

A) $\frac{2}{3} \times$ …….. $= \frac{4}{15}$

B) $\frac{3}{10} \times$ …….= 1

Date	Period	class	Attendence	Absent	Total
…. / …… / ……..	……….	6 / ……	……..	……..	……

Unit : (8), Lesson : (4) (Analyzing Multiplying and Dividing Fractions , Decimals)

Teacher guide's Page : ……. , **Student book's Page :** 11 - 14

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use standard algorithm multiply decimals and fractions.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Find the result :

A) $0.4 \times 0.6 =$ ………..

Lesson activities (Learn) :

Multiply : 0.46×0.9 ?

0.46 ⇒ 2 decimal places
× 0.9 ⇒ 1 decimal place
0.414 ⇒ 3 decimal places

THINK :

Find the quatient : $3.2 \div 0.4$?

$= 32 \div 4 = 8$

Closing the idea (Summary):

Find the quatient :

A) $2.72 \div 0.8 =$ ………..

B) $6.25 \div 2.5 =$ ………..

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit:(9), Lesson :(1) (Exploring Ratio and Rate with Real – world situations)

Teacher guide's Page : .... , **Student book's Page :** 16 - 18

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can discover the meaning of ratio and write it in different forms.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

What is ratio ?

- A ratio is a comparison of two quantities that can be written as

a to b a : b $\frac{a}{b}$

- The quantities in the ratio are called **terms**.
  The first term in the ratio above is a, and the second term is b

Lesson activities (Learn) :

A basket of fruit contains 6 apples, 4 bananas, and 3 oranges.
Write each ratio in all three forms.

a. bananas to apples.

b. oranges to bananas.

c. oranges to total pieces of fruits.

THINK :

1. Samy has 10 blue marbles, 3 red marbles and 5 white marbles.
   Write each ratio in all three forms.
   a. blue marbles to red marbles.
   b. red marbles to total marbles.

Closing the idea (Summary):

Find each ratio in simplest form .

a. 18 : 48 b. 30 : 20

Date	Period	class	Attendence	Absent	Total
_ …. / …… / ……..	……….	6 / ……	……..	……..	……

Unit : (9), Lesson : (2) (Representing Ratio)

Teacher guide's Page : ……. , **Student book's Page :** 19 - 21

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use ratio to model and extend patterns.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Find the ratio betwwen two numbers 12 : 20 in simplest form ?

Lesson activities (Learn) :

Complete the table for a ratio of 2 red to 3 blue bulbs. Look for patterns as you complete your table.

Total of Bulbs	Red Bulbs	Blue Bulbs
5	2	3
10	(A)	(B)
15	(C)	(D)
(E)	10	(F)



THINK :

If the ratio between a and b is 4 : 5

If a = 20 , then find the value of b ?

Closing the idea (Summary):

Find the next ratio :

A) 3 : 6 , 6 : 12 , 12 : 24 , …… : ….….

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (9) , Lesson :(3) (Exploring Equivalent Ratios)

Teacher guide's Page : .... , **Student book's Page :** 22 - 23

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use ratio to investigation real world relationships.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Write 18 : 24 in simplest form.

$$18 : 24 = \frac{18}{24} = \frac{18 \div 6}{24 \div 6} = \frac{3}{4}$$

So, 18 : 24 and 3 : 4 are equivalent ratios

You can write :

18 : 24 = 3 : 4 or $\frac{18}{24} = \frac{3}{4}$

Lesson activities (Learn) :

Write two ratios that are equivalent to each ratio.

a. 18 : 24 b. 15 to 25 c. $\frac{12}{30}$

THINK :

Complete.

a. $\frac{3}{4} = \frac{\dots}{20}$ b. $\frac{8}{12} = \frac{\dots}{6}$ c. $\frac{8}{\dots} = \frac{24}{30}$

d. $\frac{\dots}{35} = \frac{10}{7}$ e. $\frac{\dots}{8} = \frac{3}{6}$

Closing the idea (Summary): Complete the table to get equivalent ratios:

2	5	$4\frac{1}{2}$	—	1.2	—
6	—	—	45	—	10

× — ÷ —

Date	Period	class	Attendence	Absent	Total
_ …. / …… / ……..	……….	6 / ……	……..	……..	……

Unit : (9), Lesson : (4) (Representing Ratios With Tape Diagrams)

Teacher guide's Page : ……. , **Student book's Page** : 24 - 25

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can model ratios using tape diagrams.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Represent the following ratios by tape diagrams.

a. 3 : 2 b. 1 : 3

Solution



Lesson activities (Learn) :

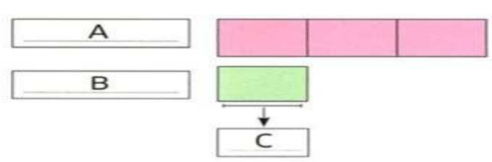
The ratio of boys to girls in the sixth primary is 3 : 5.
If there are 20 more girls than boys, how many total students are there in the sixth primary ?



THINK :

If the ratio between cats and dogs in a street is 3 : 1 and you know that the number of dogs is 4

a. Complete the chart [tape diagram] use the first two empty boxes to show what each tape represents. Use the third empty box to define the value that one block represents.



Closing the idea (Summary):

1. Represent each of the following ratios by tape diagrams.

a. 2 : 3 b. 1 : 5

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (9) ,Lesson :(5) (Analyzing Equivalent Ratios With a number line)

Teacher guide's Page : .... , Student book's Page : 26 - 27

LEARNING OBJECTIVES : In this lesson the student should be able to :

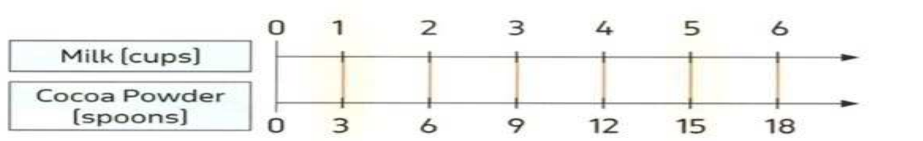
Can find equivalent ratios using double number line diagrams.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

For example : $\frac{1}{3} = \frac{5}{15}$



Lesson activities (Learn) :

The following table shows the weight of oranges in kg and its price in L.E.

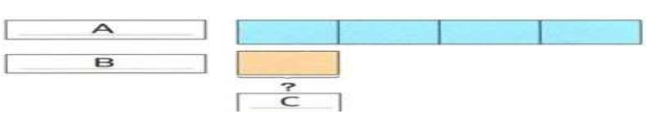
a. Represent the table by double number line.
b. Use double number line to find the price of 3 kg
c. Use double number line to find the weight of orange that cost 90 L.E.

The weight of oranges in kg	The price in L.E.
1	15
2	30
4	60
5	75

THINK :

Using the tape Diagram. Suppose that over a longer period of time, the camera recorded three foxes. Assume that the ratio of rabbits to foxes recorded by the camera is equivalent to 4 : 1

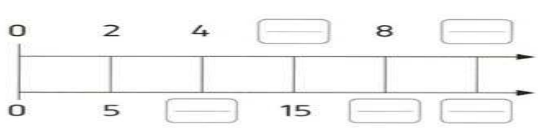
Label the tape Diagram. Copy and complete the chart. Use the first two empty boxes to show what each tape represents. Use the third empty box to define the value that one block represents in the tape diagram to model the new situation.



Closing the idea (Summary):

Complete the following double number lines by using the given ratio, then write three equivalent ratios.

a. 2 : 5





Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (9), Lesson : (6) (Comparing and Analyzing Ratios)

Teacher guide's Page : .... , **Student book's Page :** 28 - 30

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can determine whether ratios are equivalent.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

$\frac{2}{3} = \frac{4}{6}$ (× 2) and $\frac{2}{3} = \frac{10}{15}$ (× 5) then $\frac{2}{3}$, $\frac{4}{6}$, $\frac{10}{15}$ are equivalent ratios.

Lesson activities (Learn) :

If $\frac{a}{b} = \frac{c}{d}$ [a and d are called extrems , b and c are called means

Then the product of extrems = the product of means

$a \times d = b \times c$

For example : You know $\frac{2}{3}$ and $\frac{4}{6}$ are equivalent ratios

$\frac{2}{3} = \frac{4}{6}$ then $2 \times 6 = 3 \times 4$

$12 = 12$

THINK :

Find the value of x in each of the equivalent ratios.

a. $\frac{1}{3} = \frac{x}{12}$ | b. $\frac{4}{x} = \frac{20}{25}$ | c. $\frac{x}{18} = \frac{3}{2}$

Closing the idea (Summary):

Show which of the following ratios are equivalent or not equivalent.

a. $\frac{8}{24}$, $\frac{2}{6}$ | b. $\frac{4}{10}$, $\frac{12}{30}$, $\frac{6}{15}$ | c. $\frac{6}{18}$, $\frac{8}{20}$

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10) , Lesson :(1) **(Exploring unit Rate)**

Teacher guide's Page : .... , **Student book's Page :** 32 - 33

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can develop a definition of unit rate.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

- The speed of a car is 80 kilometers per hour.
- A family consumes 10 liters of water daily.
- A student writes 15 words per minute.

What is rate ?
Rate is a ratio that compares two quantities in different units of measure.

Lesson activities (Learn) :

What is the unit rate ?
- The unit rate is a ratio that compares a quantity to one unit of second quantity.

THINK :

Classify the following rates to "unit rates and not unit rates".

- 240 pounds for 6 tickets.
- 3 liters of petrol per hour.
- 50 passengers for each bus.
- 120 pounds for 2 hours.
- 15 pieces of chocolate in 3 boxes.
- 210 km in 3 hours.
- 20 students per teacher.
- 2 cups of milk per a cake.

Closing the idea (Summary):

Write [unit rate / not unit rate] for each of the following.

1. 26 books for 2 students. [..........]
2. 15 pounds daily. [..........]
3. 5,000 pounds per month. [..........]
4. 40 tickets for 5 games. [..........]

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10), Lesson : (2) (Determining unit Rate)

Teacher guide's Page : .... , **Student book's Page :** 34 - 35

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can utilize a variety of models including tape diagrams, number lines and ratio tables to determine unit rate .

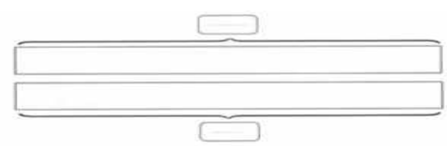
Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

32 L.E. for 4 notebooks

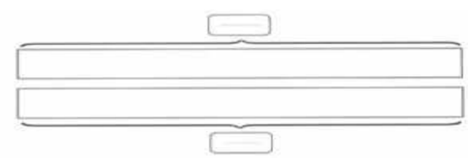
, then ________ L.E. for each notebook.



Lesson activities (Learn) :

18 liters in 6 bottles

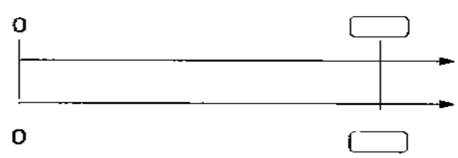
, then ________ liters in each bottle.



THINK :

12 pupils in 4 benches

, then ________ pupils in each bench.



Closing the idea (Summary):

Two machines produce cloth, the first one produces 365 meters in 5 hours and the second produces 480 meters in 6 hours, then complete :

1. The unit rate of 1st machine is
2. The unit rate of 2nd machine is
3. The better machine is

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10) , Lesson : (3) (Using The Unit Rate)

Teacher guide's Page : .... , **Student book's Page :** 36 - 37

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use unit rates to determine the best buy for a product .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :



Lesson activities (Learn) :

Use ratio table to find the unit rate, then complete.

a. 180 L.E. in 3 days

, then ________ L.E. per day.

L.E.			
Day			

THINK :

If 6 cups of flour are needed to make 2 cakes,
how many cups of flour are needed to make 5 cakes.

Closing the idea (Summary):

Find the unit rate using the given under each picture.

a. • ________ km per hour

• ________ hr per km



120 km per 2 hours

Date	Period	class	Attendence	Absent	Total
_ …. / …… / ……..	……….	6 / ……	……..	……..	……

Unit : (10), Lesson : (4) (Exploring Conversion Factor)

Teacher guide's Page : ……. , **Student book's Page** : 38 - 39

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can explore conversion factors as ratios between equivalent quantities in different units of measure.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ● Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ , Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Compare Millimeters and Centimeters The ruler shows metric units at the top. Which of the following statements are true? Select all that apply.



A. There are 10 millimeters per centimeter.
B. The ratio of millimeters to centimeters is 1 : 10.
C. For every 1 cm, there are 10 mm.

Lesson activities (Learn) :

- The conversion factor is a number used to change one set of units to another, by multiplying or dividing, the following are some conversion factors.

For example :

- $\frac{10\text{ mm}}{1\text{ cm}}$
- $\frac{100\text{ cm}}{1\text{ m}}$
- 1000 m = 1 km
- $\frac{1\text{ kg}}{1000\text{ gm}}$
- $\frac{1\text{ liter}}{1000\text{ milliliters}}$
- $\frac{1\text{ day}}{24\text{ hours}}$
- 1 minute = 60 seconds

THINK :

Which of the following represent conversion factor.

a. 1 km : 1 hour
b. 1 m : 1000 mm
c. $\frac{60\text{ minutes}}{1\text{ hour}}$
d. $\frac{2\text{ cm}}{10\text{ mm}}$
e. $\frac{1000\text{ mm}}{1\text{ litre}}$
f. 100 cm : 1 m

Closing the idea (Summary):

Write conversion factor or not :

a. There are 100 cm in 1 m [____________]
b. The ratio of day to hour is 1 : 24 [____________]
c. 100 m = 1 km [____________]
d. $\frac{1}{10}$ cm = 1 mm [____________]

Date	Period	class	Attendence	Absent	Total
_ …. / …… / ……..	……….	6 / ……	……..	……..	……

Unit : (10) , Lesson :(5) (Using Conversion Factor)

Teacher guide's Page : ……. , Student book's Page : 40 - 41

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use conversion factors to convert between different units of measure.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Complete each of the following.

a. 23 kg = ___ gm
b. 25 cm = ___ m
c. 360 min = ___ hr
d. 15600 cm = ___ m
e. 30000 mL = ___ L
f. 1500 kg = ___ gm

Lesson activities (Learn) :

Stone Blocks More than two million stone blocks were used to build the Great Pyramid of Giza. Each stone block in the Great Pyramid has a mass of about 2,300 kilograms.

About how much is the mass of one block in grams? Show your calculations.



Stone Blocks

THINK :

Camels Egypt is home to many camels, which makes sense because camels are well suited for life in the desert. A camel's hump holds a store of fat, and its body temperature can vary up to 10 degrees. On most summer days, camels drink about 20,000 milliliters of water. How many liters of water is that?

Show your calculations.



Camels

Closing the idea (Summary):

Caracal Caracals are wild cats found in the deserts of the Middle East, Asia, and Africa. They are known for their leaping abilities and their tufted black ears. Suppose a particular caracal weighs 30.5 kilograms. How many grams does the caracal weigh?
The caracal weighs ________ gm.



Caracal

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10), Lesson : (6) (Applications on the Conversion factor)

Teacher guide's Page : .... , **Student book's Page : 42 - 44**

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can apply multiple conversion factors to compare speeds given in different units of measure.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Complete the following.

a. $\frac{35\ m}{1\ min} \times \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad km}{1\ hr}$

b. $\frac{36\ km}{1\ hr} \times \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad m}{1\ sec}$

Lesson activities (Learn) :

Complete the following.

a. 20 m per sec = km per hr

b. 150 m per min = m per hr

c. 30 km per hr = m per min

THINK :

Complete.

a. Height of a house 12.7 m, then its height in cm =

b. A jar of capacity 5368 mL , then its capacity in L is

c. The time of a session is 1.5 hr, then this time in minutes =

Closing the idea (Summary):

Convert each of the following speeds.

a. $\frac{25\ km}{1\ hr} \times \frac{\quad}{\quad} = \frac{\quad m}{hr}$

b. $\frac{60\ m}{1\ min} \times \frac{\quad}{\quad} = \frac{\quad m}{sec}$

c. $\frac{135{,}000\ m}{1\ hr} \times \frac{\quad}{\quad} = \frac{\quad km}{hr}$

d. $\frac{120\ km}{1\ hr} \times \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad m}{min}$

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10) , Lesson :(7) **(Exploring percent)**

Teacher guide's Page : .... , **Student book's Page : 45 - 47**

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can explore what percentage means.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Learn What is percent ?

- A **percent** is a ratio its second term is 100.
- A **percent** means "per hundred" or "hundredths".

Lesson activities (Learn) :

$100\% = \frac{100}{100} = 1$ "100 % of a quantity denotes the whole quantity" $50\% = \frac{50}{100} = \frac{1}{2}$ "50 % of a quantity denotes half of this quantity" $25\% = \frac{25}{100} = \frac{1}{4}$ "25% of a quantity denotes quarter of this quantity"

Vhat is meant by

/hat is meant by "Marina ate 50 % of the pizza"?

THINK :

Convert each of the following decimals into a percentage.

a. 0.3 | b. 0.099 | c. 1.27 | d. 0.625

Closing the idea (Summary):

Convert each of the following fractions into a percentage.

a. $\frac{2}{5}$ | b. $\frac{8}{25}$ | c. $\frac{3}{8}$

Convert each of the following percentages into a fraction in its simplest form.

a. 27 % | b. 1 % | c. 25 %

d. 12 % | e. $16\frac{2}{3}\%$

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10), Lesson : (8) (Finding the Part, the Whole and the percent)

Teacher guide's Page : .... , **Student book's Page :** 48 - 51

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can identify the part, whole ,percent of a problem and what is the unknown .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

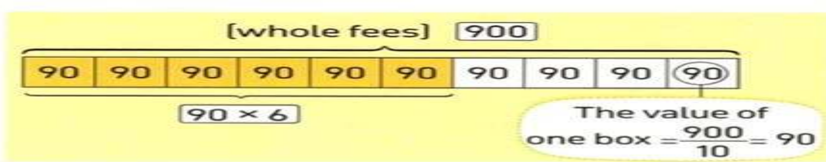
Discover (opening the idea) :

The weekly fees of a worker is 900 L.E. , he spends 60% of his fees on food and rent. Find the amount of money that he spends on food and rent.

Lesson activities (Learn) :

1 By using a tape diagram :

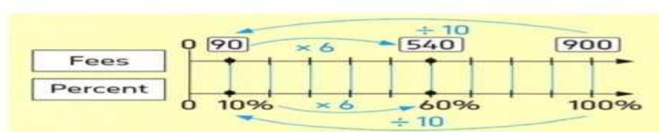
- Draw a tape diagram, divide it into 10 equal boxes.
  «i.e. each box worths 10%»



THINK :

2 By using a double number line :

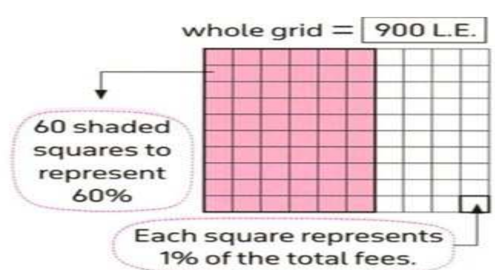
- Draw a double number line, the upper line represents the fees and the lower one represents the percent.
- Find the value of one part [that represents 10%] $= \frac{900}{10} = 90$ L.E.
- Find the amount of money that represents 60% $= 6 \times 90 = 540$ L.E.



Closing the idea (Summary):

3 By using a 10 by 10 grid :

- Draw a grid formed from 10 rows and 10 columns to represent the total fees 900 L.E.
- Find the value of each small square $= \frac{900}{100} = 9$ L.E.
- Find the amount of money that represents 60% «i.e. 60 small square» $= 60 \times 9 = 540$ L.E.



Date	Period	class	Attendence	Absent	Total
_ …. / …… / ……..	……….	6 / ……	……..	……..	……

Unit : (10) , Lesson :(9) (Using Models to find the Whole)

Teacher guide's Page : ……. , **Student book's Page :** 52 - 54

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use unit rates to determine the best buy for a product.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

180 students from the total number of students in a school have pets that represents 30% of the total number of students in the school. What is the total number of students in the school ?

Solution

First step : Determine the part, the whole and the percent as in the opposite table.

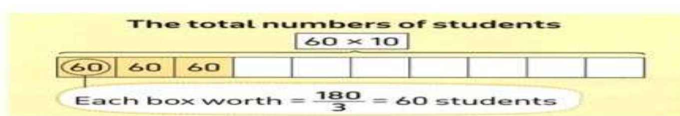
Second step : Find the value of the whole by using different ways as follow.

Whole	Part	Percent
unknown	180	30%

Lesson activities (Learn) :

1 By using tape diagram :

- Draw the tape diagram, divide it into 10 equal boxes"each box worths 10%" The whole tape represents the unknown (the total number of students).
- 30% of the diagram should be 3 boxes
- Now, 180 students represented by 3 boxes, so each box represents $\frac{180}{3} = 60$ students

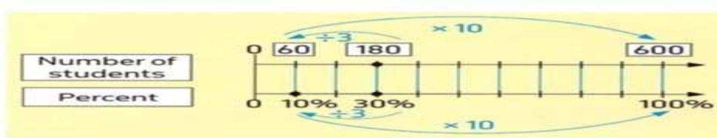


- The total number of students (the number represented by 10 boxes) = 10 × 60 = 600 students.

THINK :

2 By using a double number line :

- Draw a double number line, the upper line represents the number of students and the lower line represents the percent.
- 180 students are represented by 30% of the total number of students (that is 3 parts on the lower line) so each part = $\frac{180}{3} = 60$ students



- Find the total number of students (the whole diagram) which is 10 parts = 60 × 10 = 600 students

So the total number of students in the school = 600 students.



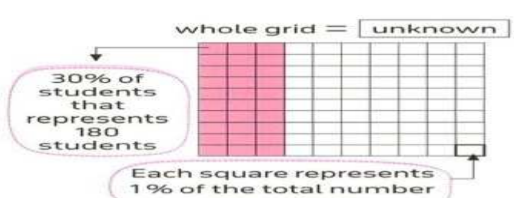
Closing the idea (Summary): Complete the table to get equivalent ratios:

3 By using a 10 × 10 grid :

- Draw a grid formed from 10 rows and 10 columns to represents the unknown (the total number of students).
- Each small square represents 1%
- 180 students represent 30% (that is 30 small square on the grid)

So each small square = $\frac{180}{30} = 6$ students

- The total number of students in the school = 6 × 100 = 600 students.



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10), Lesson : (10) (Using Models to find the Percentage)

Teacher guide's Page : .... , **Student book's Page** : 55 - 58

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use a variety of methods to solve problems that involve finding the whole.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Sandy ate 6 oranges from 20 oranges on a plate
What is the percent of the orange Sandy ate ?



Solution

First : Determine the whole, part and the percent as opposite table.

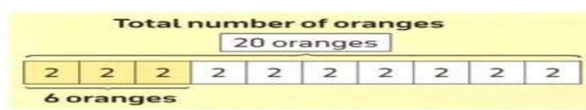
Second : Find the percent using one of the following ways.

Whole	Part	Percent
20	6	unknown

Lesson activities (Learn) :

1 By using a tape diagram :

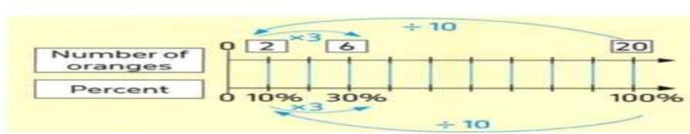
- Draw the tape diagram, divide it into 10 equal boxes, each box represent 10%
- Find the value of each box [the number of oranges that each box represents] $= \frac{20}{10} = 2$ oranges.



THINK :

2 By using a double number line :

- Draw a double number line. The upper line represents the number of oranges and the lower line represents the percent.
- Find the value of one part [that represents 10%] $= \frac{20}{10} = 2$ oranges

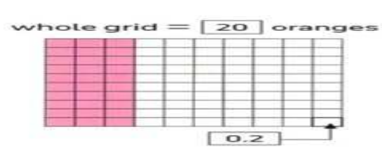


Closing the idea (Summary):

3 By using a 10 × 10 grid :

- Draw a 10 × 10 grid. The whole grid represents 20 oranges so each square worths $\frac{20}{100} = 0.2$ orange
- Find out how many small squares represts 6 oranges you can divide $\frac{6}{0.2} = 30$ small squares
- Shade 30 small squares on the grid.
- Since each small square on the grid = 1%

So 30 squares equivalent to 30 × 1% = 30%
i.e. The percent of the orange that Sandy ate = 30%



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (10) , Lesson :(11) (Applications on Percentage)

Teacher guide's Page : .... , Student book's Page : 59 - 62

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use mental math to determine the percent values of items on sale.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Marwan went to buy a watch and a shirt. If the price of a watch is 340 L.E. before a sale 10% off and the price of a shirt is 340 L.E. before a sale 1% off.

To calculate the price after discount,



Lesson activities (Learn) :

Ahmed bought a fridge , its original price is 21,200 L.E. The sales tax on the fridge is 14%

What is the price of the fridge after adding the tax ?

THINK :

Record your responses for each of these tasks.

a. Determine 10% of each price. Make a copy of the table and fill in the amounts.

Original Price	30 L.E.	45 L.E.	23 L.E.	124 L.E.	6,000 L.E.
10% of price					

Closing the idea (Summary):

If a 360 L.E. pair of shorts is on sale for 25% off, what are two different ways you could reason this percentage to determine the amount of savings ?

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (11) , Lesson :(1) **(Exploring The Coordinate Plane)**

Teacher guide's Page : .... , **Student book's Page :** 64 - 65

LEARNING OBJECTIVES : In this lesson the student should be able to :

Locate points in 1st quadrant of the coordinate plane .

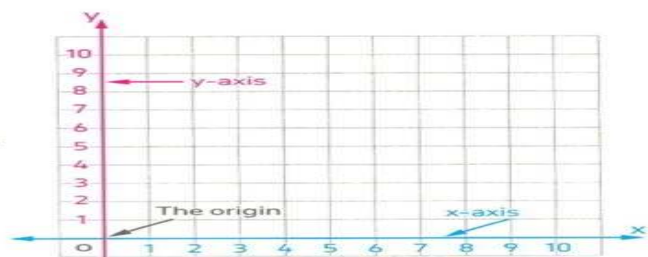
Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

• **The coordinate plane**

The coordinate plane is the plane determined by a horizontal line, called the x-axis , and a vertical line, called the y-axis , intersecting at a point , called **the origin**. It is labeled as "O"

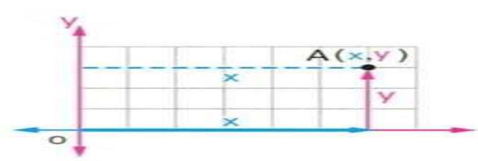


Coordinate plane

Lesson activities (Learn) :

• **Ploting the points on the coordinate plane**

To plot the point A (x , y) on the coordinate plane (the first quadrant), start from the origin and move to the right x spaces then move upward y spaces.



THINK :

Plot the points A (0 , 5) , B (6 , 3), C (4 , 0) and D (2 , 1) on the coordinate plane then find :

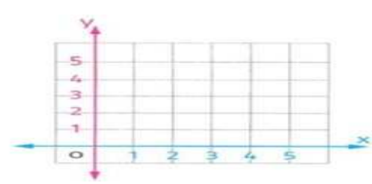
1 The vertical distance between the point B and the x-axis.

2 The horizontal distance between the point A and the y-axis.

3 The distance between the point C and the origin.

Closing the idea (Summary):

The points below will create one letter.
Draw and join them on the coordinate plane to find out the letter.
(3 , 1) , (3 , 3) , (2 , 3) , (4 , 3)



Date	Period	class	Attendence	Absent	Total
.... / ...... /	....	6 /	....	....	......

Unit : (11), Lesson : (2) (Analyzing The Coordinate Plane)

Teacher guide's Page : .... , **Student book's Page :** 66 - 68

LEARNING OBJECTIVES : In this lesson the student should be able to :

Discover how to plot points in each quadrant of the coordinate plane .

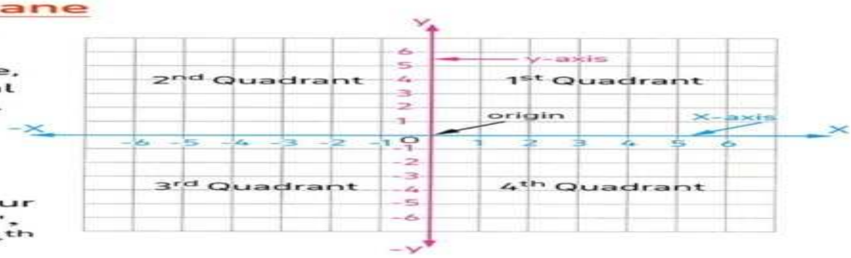
Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

• The coordinate plane

- The coordinate plane is a plane containing a horizontal number line, the x-axis , and a vertical number line , the y-axis.
- The intersection point of these axes is called the origin "O"
- The axes divide the coordinate plane into four parts called "quadrants", which are 1st , 2nd , 3rd , 4th quadrant.



Lesson activities (Learn) :

Plot each of the following points on the coordinate plane and state the quadrant of each or the axis containing the point.

A (–3 , 1)	B (4 , –2)	C (5 , 0)
D (–4 , –3)	E (0 , –5)	F (2 , 3)

THINK :

Give the quadrant that the following points lie in :

a. (2 , –7)	b. (–6 , –5)	c. (2 , 5)
d. (1 , 4)	e. (–3 , 2)	f. (10 , –15)

Closing the idea (Summary):

In which quadrant or on which axis each of the following points lies ?

a. (–3 , 5)	b. (4 , –1)	c. (2 , 0)
d. (2 , 2)	e. (–3 , –6)	f. (0 , –4)

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (11) , Lesson :(3) (Analyzing Points on the Coordinate Plane)

Teacher guide's Page : .... , **Student book's Page :** 69 - 71

LEARNING OBJECTIVES : In this lesson the student should be able to :

Expand understanding of ordered pairs and 4 quadrants of the coordinate plane .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

The image of any point (x , y) by reflection across the y-axis is the point (–x , y)

The image of any point (x , y) by reflection across the x-axis is the point (x , –y)

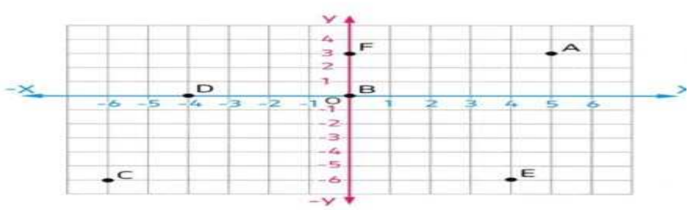
Lesson activities (Learn) :

. a. For each point on this graph, identify its coordinates.

A (5 , 3) ________ B ________
C ________ D ________
E ________ F ________

b. Plot each point on the same graph.

G (6 , –5) H (–4 , 2)
I (0 , –3) J (4 , –4)
K (–2 , –3) L (3 , 0)



THINK :

Write the coordinates of the image of each of the following points by reflection across.

First : The x-axis Second : The y-axis

A (3 , –4) B (0 , 5) C (–2 , 6) D (–4 , 0) E (–6 , –1)

Closing the idea (Summary):

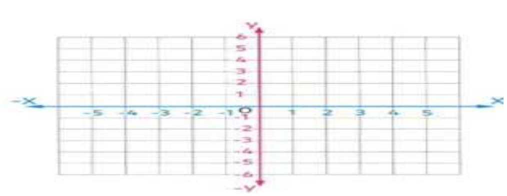
Reflect each point in the x-axis and y-axis.

Point	The image by reflection in the x-axis	The image by reflection in the y-axis
(– 12 , 13)		
(4 , – 9)		

First : Plot the points listed on a coordinate plane.

A (– 3 , 0) B (0 , – 3) C (– 2 , – 3)
D (2 , – 3) E (– 2 , 3) F (2 , 3)
G (5 , 5) H (– 6 , – 6) I (0 , 0)

Second : Which point(s) are plotted on the y-axis?



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (11), Lesson : (4)(Exploring Distance between Points on a Line)

Teacher guide's Page : .... , **Student book's Page** : 72 - 73

LEARNING OBJECTIVES : In this lesson the student should be able to :

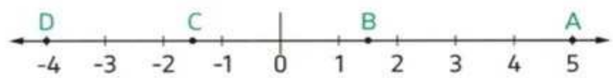
Find the distance between points on a horizontal ,vertical number line .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

In the opposite figure, find :

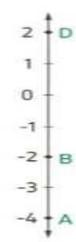
1. The distance between A and B.
2. The distance between C and D.
3. The distance between A and D.



Lesson activities (Learn) :

In the opposite figure :

If a point moves on the number line from point B to point A , then from point A to point D What is the total distance travelled by this point knowing that each one unit on the line equals 1 km.



Solution

The distance from B to A = $|-4| - |-2|$

THINK :

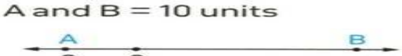
Find the distance between the two points A and B in each of the following figures.

a.


b.


Closing the idea (Summary):

Find the value of x on each of the following vertical or horizontal line :

a. If the distance between A and B = 10 units


b. If the length of $\overline{AB}$ = 26 units


Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (11) , Lesson :(5)(Exploring Distance between Points on a Coordinate Plane)

Teacher guide's Page : ....   , Student book's Page : 74 - 76

LEARNING OBJECTIVES : In this lesson the student should be able to :

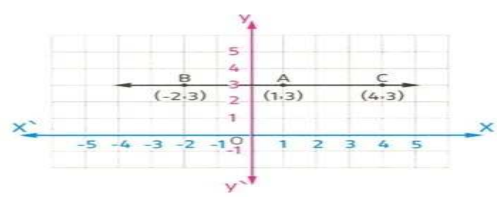
Develop strategies for finding distance between points on coordinate plane.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

For example :
The points A (1 , 3) , B (–2 , 3) and C (4 , 3) which have the same y-coordinate (3), and different x-coordinate, lie on the same horizontal line (parallel to x-aixs).



Lesson activities (Learn) :

Find the distance between each pair of points of the following :

1. (– 3 , 1) and (2 , 1)
2. (– 3 , 3) and (– 3 , 1)
3. (2 , 1) and (2 , – 4)
4. (4 , – 4) and (0 , – 4)

THINK :

For each pair of points in the table, indicate with a mark "✓" in the suitable place.

Points	Horizontal Line, Same Quadrant	Horizontal Line, Two different Quadrants	Vertical Line, Same Quadrant	Vertical Line, Two different Quadrants
(5 , – 2) , (5 , 2)				
(6 , 4) , (2 , 4)				

Closing the idea (Summary):

. The point (1 , – 4) is reflected across the x-axis.

a. Find the distance between the point and its reflection. Explain your reasoning.

Date	Period	class	Attendence	Absent	Total
.... / ...... /	....	6 /	....	....	......

Unit : (11) , Lesson :(6) (Create Geometric Shapes in coordinate plane)

Teacher guide's Page : .... , Student book's Page : 77 - 79

LEARNING OBJECTIVES : In this lesson the student should be able to :

Draw a geometric shape in a coordinate plane knowing the coordinates of its vertices.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

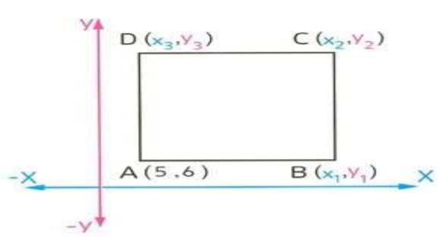
Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Plot the points A (2 ,1), B (6 ,1) , C (6 ,5), D (2 ,5) on the coordinate plane, then state the name of the figure ABCD and explain your answer.

Lesson activities (Learn) :

In the opposite figure ABCD is a square drawn in the first quadrant, the length of its side = 30 units and A (5 ,6), use the absolute value and coordinate analysis to find the coordinates of the points B , C and D.



THINK :

Plot the two points A (– 2 ,1) and B (4 ,1) on the coordinate plane then find the positions of the two points D and C on the plane such that ABCD is a square when joining the four points.

Closing the idea (Summary):

Graph the points A (1 ,1), B (5 ,1), C (5 ,4)
What must be the coordinates of point
D if ABCD is a rectangle ?
D (,)

Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (12) , Lesson :(1) **(Area of parallelogram)**

Teacher guide's Page : .... , **Student book's Page : 82 - 84**

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can practice finding height and base, then use a formula to calculate the area of parallelogram .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

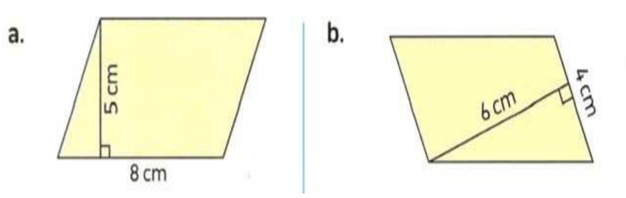
Discover (opening the idea) :

The area of the parallelogram = the base length × corresponding height

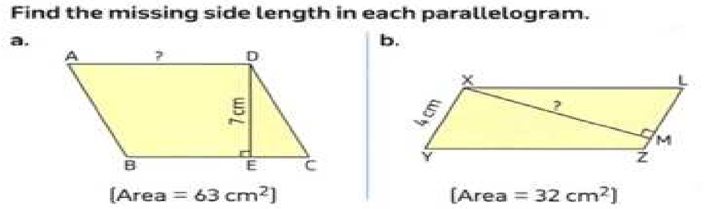
$$A = b \times h$$

Lesson activities (Learn) :

Find the area of each of the following parallelograms.



Find the missing side length in each parallelogram.



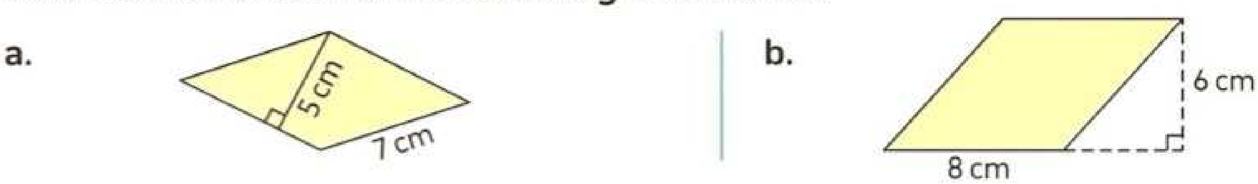
THINK :

The area of the rhombus = side length "base" × height

$$A = b \times h$$

Closing the idea (Summary):

Find the area of each of the following rhombuses.



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (12), Lesson : (2) (Area of the right angled triangle)

Teacher guide's Page : .... , **Student book's Page** : 83 - 87

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can determine the areas of right triangle using a formula.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

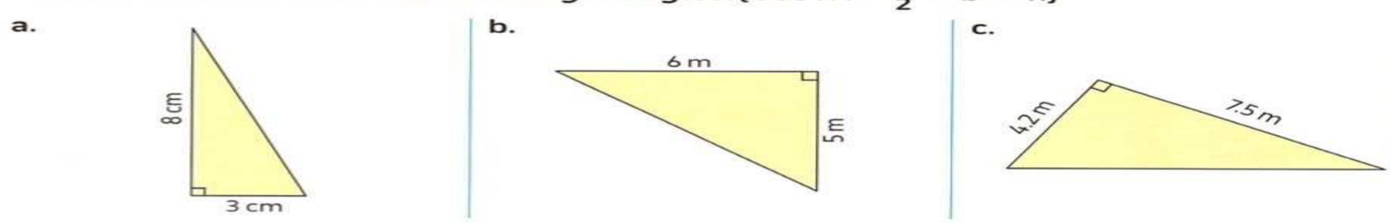
Discover (opening the idea) :

The area of the right-angled triangle = $\frac{1}{2}$ × the base length × height

$$A = \frac{1}{2} \times b \times h$$

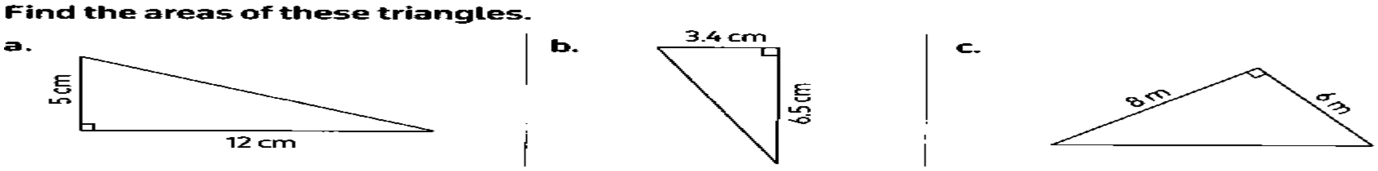
Lesson activities (Learn) :

Find the area of each of the following triangles. [Use : $A = \frac{1}{2} \times b \times h$]



THINK :

Find the areas of these triangles.



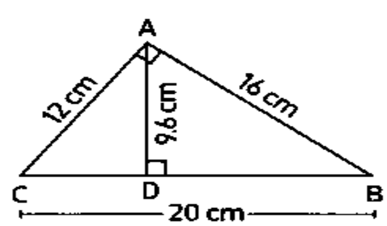
Closing the idea (Summary):

In the opposite figure :

ABC is a right-angled triangle at A , $\overline{AD} \perp \overline{BC}$

If AC = 12 cm, AB = 16 cm, BC = 20 cm and AD = 9.6 cm.

Find the area of Δ ABC in two ways.



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (12) , Lesson :(3) (Area of acute and obtuse triangles)

Teacher guide's Page : .... , Student book's Page : 88 - 89

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can explore heights and bases of acute and obtuse triangles.

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

Rule

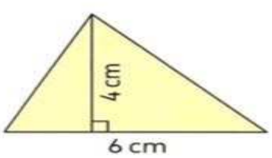
The area of the triangle = $\frac{1}{2}$ × the base length × the corresponding height

$$A = \frac{1}{2} \times b \times h$$

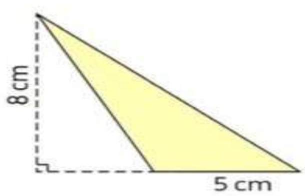
Lesson activities (Learn) :

Find the areas of these triangles.

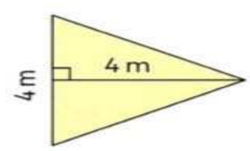
a.



b.



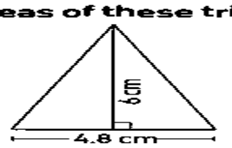
c.



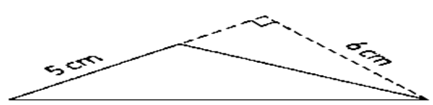
THINK :

Find the areas of these triangles.

a.

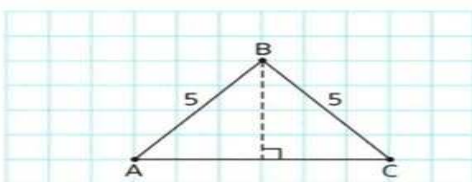


b.



Closing the idea (Summary):

Use a formula to find the area of ΔABC. Show your work, and answer this question. How is finding the area of the triangle using a formula similar to evaluating an expression?



Date	Period	class	Attendence	Absent	Total
.... / ...... /	....	6 /	....	....	......

Unit : (12), Lesson : (4) (Exploring area of trapezium)

Teacher guide's Page : .... , **Student book's Page** : 90 - 92

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can discover the area of a trapezium using composition and decomposition.

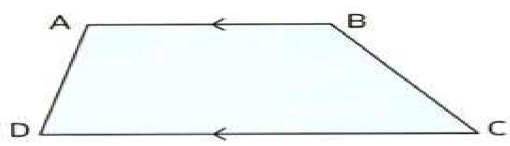
Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

- Trapezium is a quadrilateral having one pair of parallel sides.

For example :

- The opposite quadrilateral is a trapezium in which $\overline{AB} // \overline{CD}$



Lesson activities (Learn) :

Find the area of each trapezium.

a.



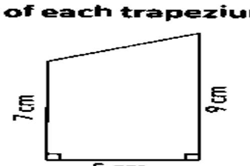
b.



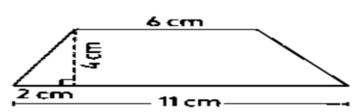
THINK :

Find the area of each trapezium.

a.



b.



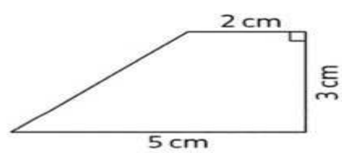
Closing the idea (Summary):

Find the area of each of the following trapeziums.

a.



b.



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (13) , Lesson :(1) (**Surface area of cuboid**)

Teacher guide's Page : .... , **Student book's Page :** 94 - 97

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use models to find the surface area of the cuboid .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

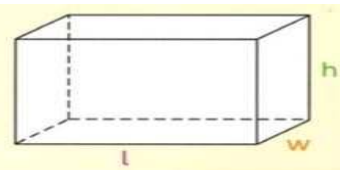
Discover (opening the idea) :

The surface area of a cuboid (SA)

$= lw + lw + lh + lh + wh + wh$

$= 2 \times (lw) + 2 \times (lh) + 2 + (wh)$

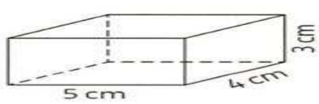
$= 2 \times (lw + lh + wh)$



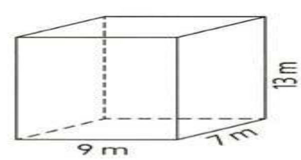
Lesson activities (Learn) :

Find the surface area of each of the following cuboids.

a.



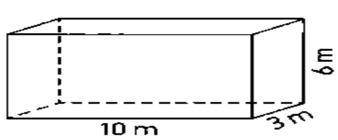
b.



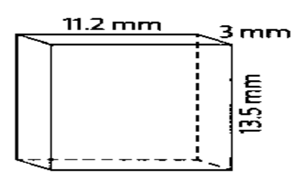
THINK :

Find the surface area of each cuboid.

a.



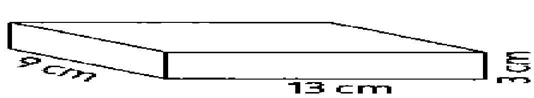
b.



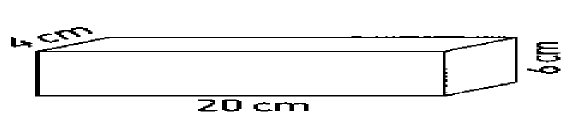
Closing the idea (Summary):

Find the surface area of each cuboid.

a.



b.



Surface area = ____________________ Surface area = ____________________

Date	Period	class	Attendence	Absent	Total
.... / ...... /	....	6 /	....	....	......

Unit : (13), Lesson : (2) (Exploring surface area of prism and pyramid)

Teacher guide's Page : .... , **Student book's Page :** 98 - 100

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can use nets to find the surface areas of triangular prisms and square pyramids.

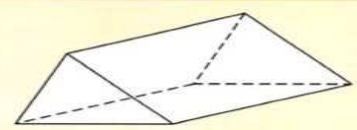
Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

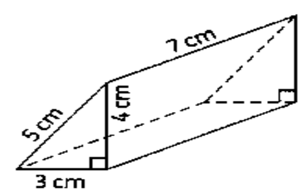
Rule

Surface area of a triangular prism =
area of 3 rectangular faces + area of 2 triangular bases



Lesson activities (Learn) :

Find the surface area of the opposite rectangular prism.



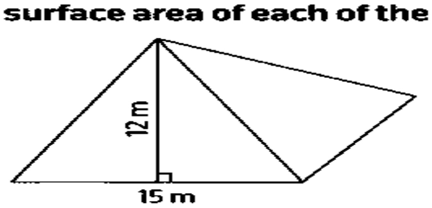
THINK :

The surface area of a square pyramid is the sum of the areas of all faces (4 congruent triangular side faces and one squared base)

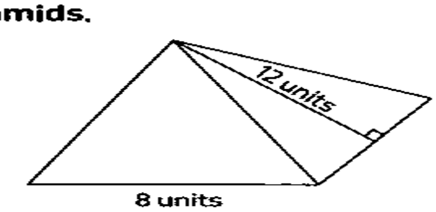
Closing the idea (Summary):

Find the surface area of each of the following square pyramids.

a.



b.



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (13) , Lesson :(3) (Applications on volume)

Teacher guide's Page : .... , Student book's Page : 101 - 102

LEARNING OBJECTIVES : In this lesson the student should be able to :

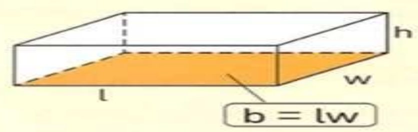
Can use formulas to calculate the volume of cuboids with fractional side lengths .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ○, Chart ○ , Money ●, Small places ○, Other things ●

Learning strategies : Sharing ●, Thinking ○ , Grouping ● ,
Role playing ○, Brain storming ● , Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

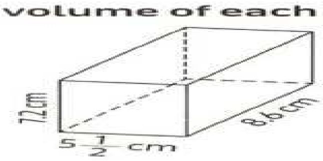
Volume of cuboid [V]
= length × width × height = l × w × h
= base area × height = b × h



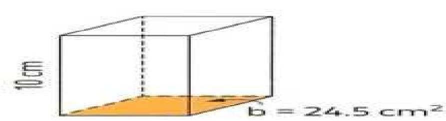
Lesson activities (Learn) :

Find the volume of each cuboid.

a.



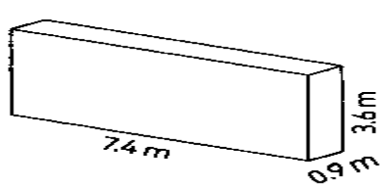
b.



THINK :

1. Calculate the volume of each cuboid.

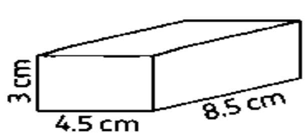
a.



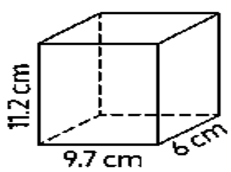
Closing the idea (Summary):

Find the volume of each cuboid.

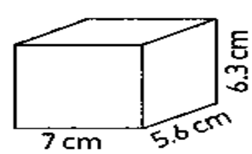
a.



b.



c.



Date	Period	class	Attendence	Absent	Total
_ .... / ...... /	....	6 /	....	....	......

Unit : (13), Lesson : (4) (Volume of cuboid with known ratios)

Teacher guide's Page : .... , **Student book's Page :** 103 - 104

LEARNING OBJECTIVES : In this lesson the student should be able to :

Can change the dimensions of a cuboid to see how the volume is impacted .

Learning tools and resources: Worksheets ○ , S.B ● , Cards ●
Internet ●, Chart ○ , Money ●, Small places ○, Other things ●
Learning strategies : Sharing ●, Thinking ○ , Grouping ○ ,
Role playing ○, Brain storming ●, Problem solving ○ , Explain discussion ○

Discover (opening the idea) :

From the previous table, we deduce that :

1. The ratio of the new volume to the original volume when you doubled one dimension is 2 : 1 [120 : 60 = 2 : 1]
2. The ratio of the new volume to the original volume when you doubled two dimensions is 4 : 1 [240 : 60 = 4 : 1]

Lesson activities (Learn) :

The following table shows the changing of the volume of a cuboid at doubling one or more of its dimensions.

	Length (cm)	Width (cm)	Height (cm)	Volume (cm^3)
Original cuboid	5	4	3	60
1 Doubling one dimension	10	4	3	120
2 Doubling two dimensions	10	8	3	240
3 Doubling three dimensions	10	8	6	480

THINK :

The volume of a cuboid is 48 cm^3. If its three dimensions are doubled, then find the new volume of the cuboid.

Solution

New volume : Original volume

× 48 (8 : 1) × 48

? : 48

The new volume = 48 × 8 = 384 cm^3

Closing the idea (Summary):

The volume of a cuboid is 50 m^3. Find the new volume of the cuboid when :

1. One dimension is doubled.

2. Two dimensions are doubled.


موقع الدكتور
محمد رزق
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